

SECTION 7 GUIDELINES - Snake River Basin Office
Grizzly Bear (threatened)
(*Ursus arctos*)

I. BACKGROUND

Legal status

The grizzly bear was listed as a threatened species on July 28, 1975, within the conterminous 48 States (40 FR 31734).

Species Description

The grizzly bear was first described as a separate species in 1758, and is a member of the Class Mammalia, Order Carnivora, and Family Ursidae (Banks, McDiarmid, and Gardner 1987). Grizzly bears have long, curved claws, humped shoulders, and a face that appears concave. Coloration ranges from light brown to nearly black. Guard hairs are often paled at the tips, giving it a silvered, grizzly appearance. The average weight is 182 to 272 kilograms (kg) [400 to 600 pounds (lbs)] for males and 114 to 159 kg (250 to 350 lbs) for females. Adults stand 1 to 1.4 meters (m) [3.5 to 4.5 feet (ft)] at the hump when on all fours, and over 2.4 m (8 ft) when on hind legs. Muscle structure is developed for massive strength, quickness, and running speeds up to 72.4 kilometers (km) [45 miles (mi)] per hour. Grizzly bears walk on all four legs, and can stand upright on hind legs to improve sight and smell opportunities.

Life History

Grizzly bears are omnivorous, despite the fact that they have the digestive tract of a carnivore. They have the longest intestinal length relative to body length of any carnivore, but they lack multiple stomachs and a caecum, and are therefore unable to digest cellulose. Bears feed on highly digestible animal or vegetable matter high in starch, sugars, protein, and stored fat.

Grizzly bears have one of the lowest reproductive rates of any land mammal. Age at first reproduction is 3.5 to 8.5 years (5.5 years average) for females. Males become sexually mature at around 4.5 years. The female reproductive interval averages once every 3 years. Mating occurs in late May to mid-July. Embryonic development is postponed by delayed blastocyst implantation, which occurs approximately 0-15 days after denning. Birth occurs in early February. Litter size is 1 to 4 cubs (2 cub average). The cubs are born with eyes closed and remain in the den until late March or early April. Cubs usually remain with the female for 2 years, at which time the female is generally ready to breed again. Individuals have been recorded to live 40 years, but life span in the wild may be closer to 25 years.

Natural mortality factors for grizzly bears are not well known. They may include predation of

juveniles by adults, predation of adults by adults, dispersal of subadults into submarginal home ranges, and increased human/bear conflicts while dispersing to preferred spring and fall food sources. Human-caused mortality includes direct human/bear confrontations, attraction to improperly stored food and garbage, improper disposal of livestock carcasses, protection of livestock, declining amounts of grizzly bear habitat, and legal and illegal hunting.

Habitat

Most existing grizzly bear habitat is characterized by contiguous, relatively undisturbed mountainous habitat that have a high level of topographic and vegetative diversity. Cover seems to be important to grizzly bears in the northern Rockies, particularly during bedding periods. Generally cover used is not more than a kilometer from open parks or meadows.

Grizzly bears den when food availability and air temperatures decline. Den sites are generally at higher elevations in areas where snow is not likely to melt during warm periods through the winter. Bears dig a den in the fall, entering for hibernation around November.

Population Status

Grizzly bears currently occupy approximately 2% of their historic range in the continental United States. The Service has identified seven grizzly bear recovery ecosystems in the northern Rocky Mountains of the western United States: Yellowstone; Cabinet/Yaak; Selkirk; Bitterroot; Northern Continental Divide in Montana; North Cascades in Washington; and the San Juan Mountains in Colorado. Grizzly bears are known to occur in all but the Bitterroot and San Juan ecosystems. Varying portions of the first four ecosystems listed occur in Idaho (Figure 1 - GB).

Three basic parameters were selected for use in the 1995 revision of the grizzly bear recovery plan as key indicators of population status. These include: (1) sufficient reproduction to offset the existing levels of human-caused mortality; (2) adequate distribution of breeding animals throughout the area; and (3) a limit on total human-caused mortality, which is related to the previous two parameters. The recovery plan recommends monitoring to include (1) the number of unduplicated females with cubs seen annually, (2) the distribution of females with young or family groups throughout the ecosystem, and (3) the annual number of known human-caused mortalities.

Yellowstone Ecosystem -- Montana, Idaho and Wyoming

Grizzly bears in the Yellowstone ecosystem currently occupy over 23,300 square kilometers (km²) (9,500 square miles [mi²]) of mountainous terrain in and surrounding Yellowstone National Park. Recovery goals for this ecosystem include maintaining 15 females with cubs over a running six-year average both inside the recovery zone and within a ten-mile radius around the recovery zone; 16 of 18 Bear Management Units (BMU) will be occupied by females with young from a running six-year sum of verified sightings and evidence; and no two adjacent BMU's will be unoccupied; known human-caused mortality will not exceed four percent of the population estimate, no more than 30% of this mortality shall be females; and mortality limits cannot be exceeded during any two consecutive years.

Cabinet/Yaak Ecosystem -- Montana, Idaho and Canada

The Cabinet/Yaak ecosystem has over 5,100 km² (2,600 mi²) of forested and mountainous habitat occupied by bears. Some interchange of grizzly bears has been documented between the Cabinet mountains portion of the ecosystem and Canada. Movement between the Cabinet and the Yaak portions is believed to occur, but has yet to be confirmed.

Recovery goals for this ecosystem are six females with cubs running over a 6-year average both inside and within a 16 km (10 mi) area immediately surrounding the recovery zone, excluding Canada; 18 of the 22 bear management units must be occupied by females with young from a running 6-year sum of verified sightings and evidence; known human-caused mortality will not exceed 4 percent of the population estimate based upon the most recent 3-year sum of females with cubs; no more than 30 percent of the 4 percent mortality can be females; and mortality limits cannot be exceeded during any 2 consecutive years for recovery to be achieved. At the present small population, the mortality goal is zero known human-caused mortalities.

Selkirk Ecosystem -- Idaho, Washington and Canada

This ecosystem includes 2,800 km² (1,081 mi²) of bear habitat in the United States portion and 2,270 km² (876 mi²) of bear habitat in the Canadian portion of the recovery zone. The Canadian portion of the recovery zone is managed by the British Columbia Ministry of Environment.

Recovery goals of this ecosystem are six females with cubs over a running 6-year average both inside and within a 16 km (10 mi) area immediately surrounding the recovery zone, including Canada; 7 of 10 bear management units on the U.S. side shall be occupied by females with young from a running 6-year sum of verified sightings and evidence; known human caused mortality cannot exceed 4 percent of the population estimate based upon the most recent 3-year sum of females with cubs; furthermore, no more than 30 percent of this 4 percent mortality limit shall be females. These mortality limits cannot be exceeded during any 2 consecutive years for recovery to be achieved. At the present small population, the goal is zero known human-caused mortalities.

Threats

Threats include increased road and trail construction into previously inaccessible areas for timbering practices and trail construction, resulting in increased livestock-bear conflicts, human-bear conflicts, illegal poaching; taking of bears due to public perception that bears are threats to human safety and livestock; a lack of data on habitat condition, carrying capacity of habitat, total numbers, annual reproduction and mortality, and annual turnover and population trends; genetic and geographical isolation; and increasing competition for habitat by recreationists.

II. GENERAL PROTECTIVE MEASURES

Avoidance of human-caused mortality

Given that grizzly bears have one of the lowest reproductive rates of any land mammal, reducing mortality of individual bears is critical. Maintaining human-caused mortality rates at some point below the six-percent theoretical tolerance limit for grizzly bear populations is critical. The loss of even one or a few female grizzly bears from a population is especially injurious to achieving recovery goals because females may reproduce only every three years. Removing bear attractants which may cause accidental deaths along roadsides, for example, may be important in promoting grizzly bear recovery. Ensuring the public is aware of the need to avoid killing bears may also be important, particularly during local hunting seasons. Reducing opportunities for bears and people to occur in the same place at the same time by using road closures or re-scheduling events or activities, for example, could also help promote recovery of grizzly bears. Management of motorized access offers one of the best actions to provide habitat security in North America (Interagency Grizzly Bear Committee (IGBC) 1994).

Habitat protection

In general, efforts that reduce human access to potential or existing bear habitat, such as protective measures implemented to protect big game habitat on National Forest lands, will contribute to recovery of grizzly bears. Habitat fragmentation from human activities such as road building, timber harvest, and mining adversely affect bear use of habitats that may otherwise be suitable for use. Maintaining diversity of native vegetation in grizzly bear habitat is important to provide adequate cover and food sources for bears properly distributed over wide areas.

Maintain linkage zones

One factor that may affect the sustainability of grizzly bear populations in the future is the ability of individual animals to move between ecosystems. Accurate information is necessary to assess the potential for this type of movement in linkage zones between existing adjacent grizzly bear recovery zones. The Service has initiated a process to assess linkage potential in cooperation with states, provinces, and land management agencies in the affected areas. Linkage zones are desirable for recovery, but are not essential for de-listing of grizzly bears under the Endangered

Species Act at this time. The Service recommends that land management agencies maintain all options possible for allowing movement of large carnivores such as grizzly bears between ecosystems while the evaluation process is underway. On public lands, management prescriptions similar to big game summer range prescriptions that address access management would likely conserve any existing potential of these areas to provide linkage corridors.

Public Education

Educating the public that live near, use resources, and recreate in grizzly bear habitat is essential to recovery of the species. Proper storage from garbage and food items to avoid attracting bears is critical. Efforts to address local concerns about the presence of grizzly bears or management of bear habitat is important to reduce animosity towards grizzly bears and reduce the threat of illegal mortality.

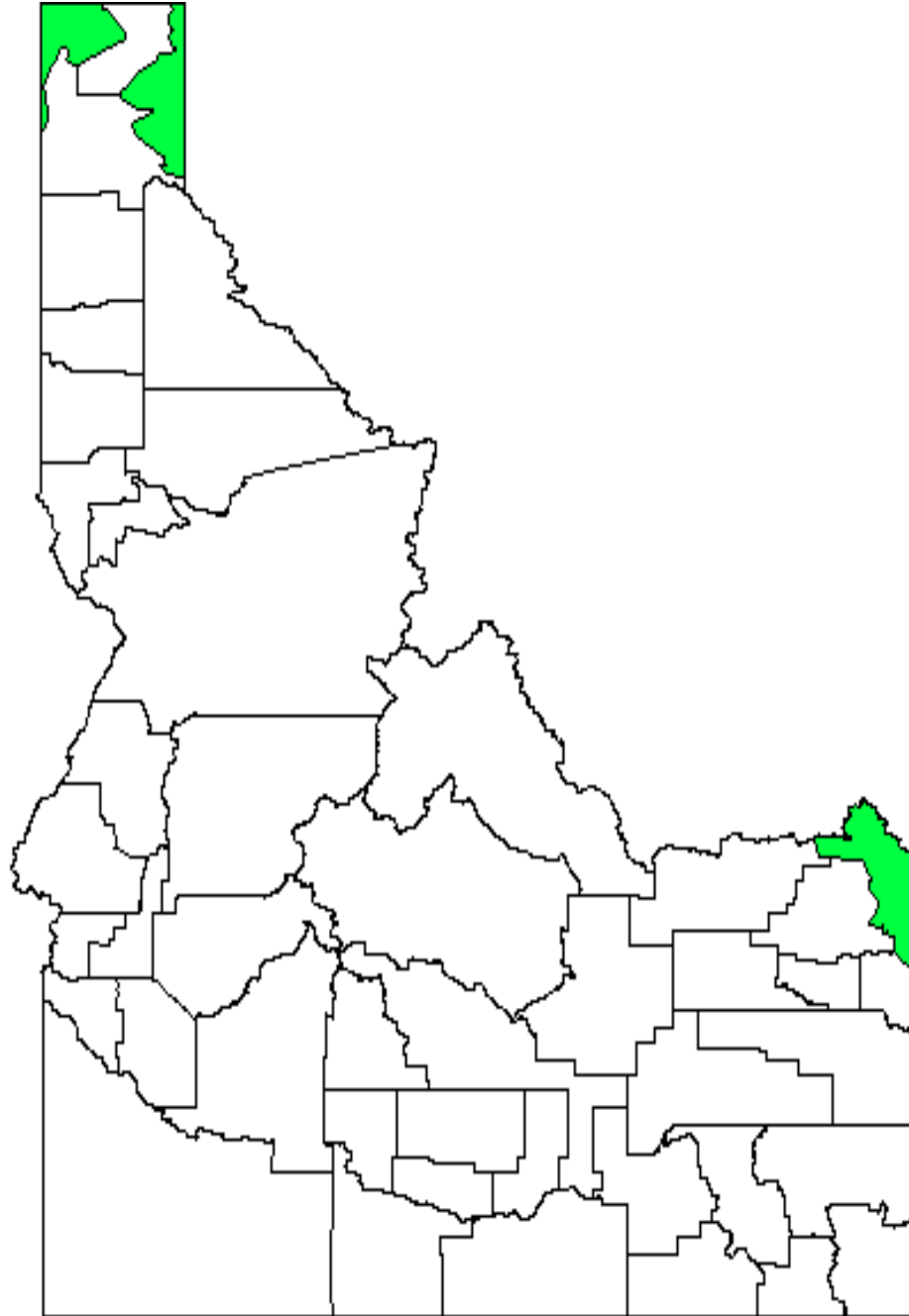


Figure 1 - Grizzly bear. Occupied grizzly bear habitat in Idaho.

Contact Persons

Dr. Christopher Servheen, Grizzly Bear Recovery Coordinator, U.S. Fish and Wildlife Service, University Hall 309, University of Montana, Missoula, Montana 59812 (406) 243-4903

Bob Ruesink, USFWS, Snake River Basin Office, 1387 South Vinnell Way, Room 368, Boise, Idaho 83709 (208) 378-5243.

Larry Dickerson, USFWS, Eastern Idaho Sub-Office, 4425 Burley Drive, Suite A, Chubbuck, ID 83202 (208) 237-6975.

References

Banks, Richard C., Roy W. McDiarmid, and Alfred L. Gardner. 1987. Checklist of Vertebrates of the United States, the U.S. Territories, and Canada. U.S. Fish Wildl. Serv., Resour. Publ. 166. 79 pp.

Davis, D. And B. Butterfield. 1991. The Bitterroot grizzly bear evaluation area: a report to the Bitterroot Technical Review Team. Interagency Grizzly Bear Committee, Denver, CO. 56 pp.

U.S. Fish and Wildlife Service. 1993a. Grizzly Bear Recovery Plan. Missoula, MT 181 pp.

U. S. Fish and Wildlife Service. 1993b. Bitterroot Ecosystem grizzly bear recovery chapter. Missoula, MT. 25 pp.

U. S. Fish and Wildlife Service. 1975. Endangered and Threatened Wildlife, Amendment listing the grizzly bear of the 48 Conterminous States as a threatened species. Vol 40 Number 145 . pp 31734 -31736.

III. GUIDELINES - Protocol for Evaluating Project Effects

The grizzly bear should be considered in a project analysis and a Biological Assessment prepared if the proposed project area falls either wholly or partially within the Selkirk, Cabinet-Yaak, or Greater Yellowstone Recovery areas (as defined and delineated in the Grizzly Bear Recovery Plan), or if the proposed project is outside these recovery areas but is in an area documented as currently supporting grizzly bears. Projects should comply with existing Land Management Plans and Biological Opinions prepared by the Service in the action area.

Concerning motorized access, analysis should follow the definitions, methodology, and cumulative effects interface prescribed in the Interagency Grizzly Bear Committee Taskforce Report, Grizzly Bear/Motorized Access Management, July 1994. The BA analysis should include information generated from the existing Unified Cumulative Effects Model (UCEM). If UCEM analysis is incomplete in the analysis area, project prescriptions should include a time line for completion of UCEM in the project analysis area.

The following parameters should be included as a part of the analysis regarding motorized access. The size of the analysis area will greatly influence the density estimates calculated below. The size used to generate the figures below should be determined based on the biological needs of the species and the local population.

Total motorized access route density includes all open and restricted roads and motorized trails. Density is displayed as a percentage of the analysis area in a defined density category, for example 20 percent of the analysis area would be less than 3 km per km² (2.0 mi per mi²). **Open road and open motorized trail route density** - Density is a single cumulative total of open roads and open motorized trails. **The percentage of analysis area in core areas(s)** - The size of the core area should be at least that area necessary to support a female grizzly bear for 24 hours of foraging. The minimum size of connectivity of patches of grizzly bear habitat would be established for the entire recovery zone (IGBC 1994).

Report sightings All sightings of grizzly bears should be reported immediately to the local federal land management agency biologist or the Idaho Department of Fish and Game. These sightings should be reported within one day to Bob Ruesink, U. S. Fish and Wildlife Service in Boise, Idaho (208)378-5243. This stipulation should be included in all contracts for work within 10 miles of proposed or existing grizzly bear recovery zones.

Sanitation measures in contractor's camps Attractants for grizzly bears include foods and food odors, garbage, livestock and livestock carrion and pets associated with human presence. Bear proof garbage containers will be used with regularly scheduled garbage removal to prevent overflow. These requirements should be included in contracts for flood work in grizzly bear recovery zones or areas with recent grizzly bear sightings. Animal carcasses that are larger than deer should be removed from flood damage areas.

Road construction/reconstruction other recovery zones in Idaho Projects will be designed so as not to increase road densities. Projects conducted at any time will not increase open road densities above 1.0 per mile² (0.6 miles per mile² in the Yellowstone recovery area). If road densities exceed these limits, projects will include a plan to close roads within 2 years following the flood event. Grizzly bear core areas shall be designated for projects areas and referenced in existing biological opinions, NEPA documentation or planning documents.